

VENUS' FLYTRAP, DIONAEA MUSCIPULA,
A PLANT WHICH EATS INSECTS

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It has been said that when a dog bites a man, that isn't news, but when a man bites a dog, that is news. The Venus' flytrap, Dionaea muscipula Ellis, is in the "man bites dog" category. Most plants are eaten by some type of insect. Venus' flytrap actively catches and consumes insects.

Dionaea muscipula (fig. 1) is a small perennial plant growing naturally only in a small area of the wet, sandy, coastal plain savannahs of the Carolinas within an approximate radius of 60-75 miles from Wilmington, N. C. The plant grows from a white, somewhat elongated, bulbous rhizome. A rosette of leaves is produced which may measure up to 10-14 cm across with leaves up to 12 cm long. The leaves consist of 2 parts; a broad, leaf-like petiole which performs most of the photosynthesis, and a blade which is modified into a trap to catch and digest insects. The white actinomorphic flowers, borne on a 1-30 cm scape, are about 1.0-1.5 cm across. After fertilization of the flowers, seed pods are formed containing tiny, black, pear-shaped seeds, which mature in 6-8 weeks.



Fig. 1. Dionaea muscipula

Seed will germinate immediately on ripening if planted on a suitable medium. Seed stored at room temperature loose viability in about 2 months, but can be kept viable for up to a few years if properly dried and refrigerated.

The most interesting part of the plant is the trap. It consists of 2 halves which have the appearance of being hinged. The halves move by bending, rather than moving on the hinge as might be expected. Each half of the trap has a line of stiff hairs along the margin which on closing form an interlocking closure. On the face of each half are usually 3 trigger hairs. Movement of these hairs by prey insects causes the trap to close.

Once the trap closes on an insect, the halves continue closing tighter until tight contact is made with the insect and the margins are tightly closed. Tiny gland cells on the inner surface of the trap begin secreting digestive juices to digest the insect. As the insect is digested, the nutrients are absorbed by these same glands over a period of 3-5 days. Afterward the trap reopens. If the trap is triggered, but no prey is caught, the trap will reopen within a few hours. Trapped insects are necessary as a nitrogen source when the plants

are growing in the poor soils of their natural habitat. Under cultivation, if adequate nitrogen and other nutrients are provided and if other cultural requirements are adequately met, trapped insects are much less important, if necessary at all.

The Venus' flytrap is frequently sold as a household pot plant. This is unfortunate because the plants rarely survive pot conditions for any prolonged period of time. They are very exacting in their cultural requirements and must have acid bog conditions closely approximating those of the area where they grow naturally. Any appreciable deviation from this will mean a short life for the plant.

The range of Venus' flytrap, which has never been very extensive, is decreasing rapidly because of destruction of its habitat for development etc., and from over-collection for sale.

The Venus' flytrap is an interesting plant to grow and observe, but it definitely is not suitable for any grower not thoroughly familiar with this plant and its cultural requirements.

Selected References:

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- Lloyd, F. E. 1976. *The carnivorous plants*. Dover, New York. 352p.
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